

Figure S1. Chemotherapy recommendation according to recurrence score interval. Chemo, chemotherapy.

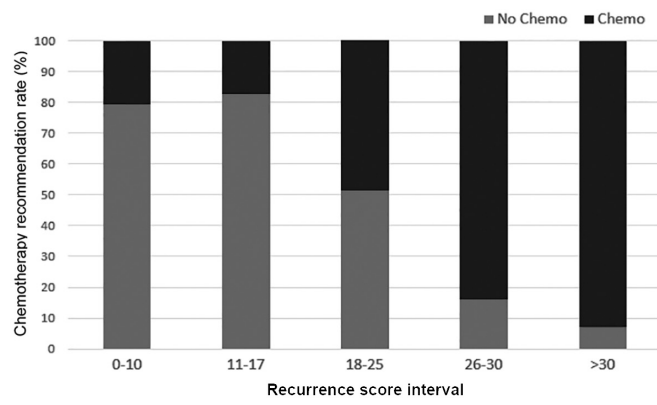


Figure S2. Chemotherapy recommendation according to RS categories stratified by LN status. RS, recurrence score; Chemo, chemotherapy; LN, lymph node.

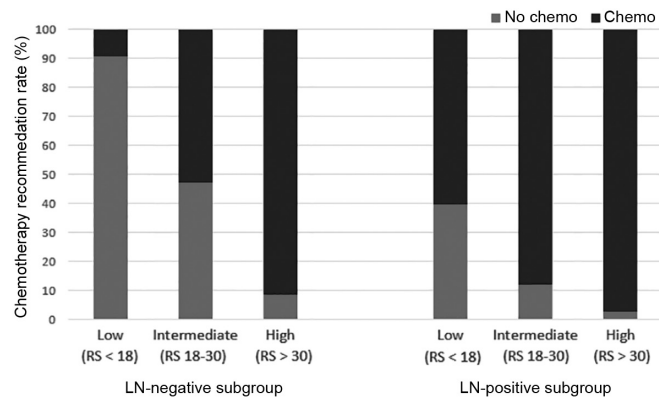


Table SI. Probe sequences for all 21 genes in the 21-gene RS assay.

Gene name	Probe sequence
ACTB	AGGAGTATGACGAGTCCGGCCCC
BAG1	CCCAATTAACATGACCCGGCAACCAT
Bcl2	TTCCACGCCGAAGGACAGCGAT
CCNB1	TGTCTCCATTATTGATCGGTTTCATGCA
CD68	CTCCAAGCCCAGATTCAGATTTCGAGTCA
CEGP1	CAGGCCCTCTTCCGAGCGGT
CTSL2	CTTGAGGACGCGAACAGTCCACCA
ER	CTGGAGATGCTGGACGCCC
GAPD	CCGTTCTCAGCCTTGACGGTGC
GRB7	CTCCCCACCCTTGAGAAGTGCCT
GSTM1	TCAGCCACTGGCTTCTGTCATAATCAGGAG
GUSB	TCAAGTAAACGGGCTGTTTTCCAAACA
HER2	CCAGACCATAGCACACTCGGGCAC
Ki67	CCACTTGTCGAACCACCGCTCGT
MYBL2	CAGCATTGTCTGTCCTCCCTGGCA
PR	TGTCCTTACCTGTGGGAGCTGTAAGGTC
RPLP0	TCTCCACAGACAAGGCCAGGACTCG
STK15	CTCTGTGGCACCCCTGGACTACCTG
STMY3	ATCCTCCTGAAGCCCTTTTCGCAGC
SURV	TGCCTTCTTCCTCCCTCACTTCTCACCT
TFRC	AGGGATCTGAACCAATACAGAGCAGACA

RS, recurrence score.

Table SII. Chemotherapy cycles, regimens and 21-gene RS.

RS categories	4 cycles (EC/TC, %)	8 cycles (EC-T, %)	P-value
Low	32 (94.12)	2 (5.88)	P<0.001
Intermediate	211 (80.23)	52 (19.77)	
High	91 (63.19)	53 (36.81)	

Association between chemotherapy regimens and RS categories was evaluated using the χ^2 test. E, epirubicin; C, cyclophosphamide; T, docetaxel; RS, recurrence score.

Table SIII. Clinicopathological features and chemotherapy recommendation in lymph node-negative patients.

Variables	Univariate analysis			Multivariate analysis		
	No chemotherapy, n (%)	Chemotherapy, n (%)	P-value	OR	95% CI	P-value
Age, years			0.001			0.073
≥50	227 (55.10)	185 (44.90)		1.00		
<50	75 (40.11)	112 (59.89)		2.93	0.90-9.47	
Charlson comorbidity index			<0.001			<0.001
0	65 (40.37)	96 (59.63)		1.00		
1-2	104 (40.78)	151 (59.22)		1.84	0.56-5.99	
≥3	133 (72.68)	50 (27.32)		0.35	0.09-1.28	
T size stage			0.002			0.507
T ₁	238 (54.33)	200 (45.67)		1.00		
T ₂	64 (39.75)	97 (60.25)		1.20	0.70-2.08	
Grade			<0.001			<0.001
I	69 (81.18)	16 (18.82)		1.00		
II	208 (54.88)	171 (45.12)		3.63	1.69-7.78	
III	25 (18.52)	110 (81.48)		13.11	4.81-35.70	
ER			0.075			0.568
≥50%	295 (51.13)	282 (48.87)		1.00		
<50%	7 (31.82)	15 (68.18)		0.66	0.15-2.80	
PR			<0.001			<0.001
≥20%	239 (60.51)	156 (39.49)		1.00		
<20%	63 (30.88)	141 (69.12)		3.88	2.22-6.77	
Ki-67			<0.001			<0.001
≤14%	208 (68.20)	97 (31.80)		1.00		
>14%	94 (31.97)	200 (68.03)		4.10	2.42-6.92	
Subtypes			<0.001			0.094
Luminal A-like	160 (80.00)	40 (20.00)		1.00		
Luminal B-like	142 (35.59)	257 (64.41)		2.34	0.87-6.29	
RS categories			<0.001			<0.001
Low	137 (90.73)	14 (9.27)		1.00		
Intermediate	155 (47.11)	174 (52.89)		12.22	6.13-24.36	
High	10 (8.40)	109 (91.60)		84.04	31.11-227.05	

Association between chemotherapy recommendation and clinicopathological characteristics was evaluated using the χ^2 test. Factors associated with chemotherapy recommendation in the multivariate analyses were identified with logistic regression. BCS, breast-conserving surgery; T, tumor; N, node; ER, estrogen receptor; PR, progesterone receptor; RS, recurrence score; OR, odds ratio; CI, confidence interval.

Table SIV. Clinicopathological features and chemotherapy recommendation in lymph node-positive patients.

Variables	Univariate analysis			Multivariate analysis		
	No chemotherapy, n (%)	Chemotherapy, n (%)	P-value	OR	95% CI	P-value
Age, years			0.003			0.301
≥50	25 (20.00)	100 (80.00)		1		
<50	1 (2.08)	47 (97.92)		5.05	0.24-108.11	
Charlson comorbidity index			<0.001			0.020
0	0 (0.00)	43 (100.00)		∞		
1-2	8 (10.96)	65 (89.04)		5.03	1.62-15.63	
≥3	18 (31.58)	39 (68.42)		1.00		
T size stage			0.139			0.143
T ₁	17 (18.89)	73 (81.11)		1.00		
T ₂	9 (10.84)	74 (89.16)		2.52	0.76-6.67	
Grade			0.012			0.305
I	2 (18.18)	9 (81.82)		1.00		
II	22 (20.00)	88 (80.00)		0.26	0.03-2.20	
III	2 (3.85)	50 (96.15)		0.61	0.04-9.29	
ER			1.000			0.999
≥50%	26 (15.38)	143 (84.62)		1.00		
<50%	0 (0.00)	4 (100.00)		-		
PR			0.245			0.990
≥20%	20 (17.24)	96 (82.76)		1.00		
<20%	6 (10.53)	51 (89.47)		1.01	0.27-3.74	
Ki-67			<0.001			<0.001
≤14%	21 (28.77)	52 (71.23)		1.00		
>14%	5 (5.00)	95 (95.00)		9.47	2.74-32.76	
Subtypes			<0.001			0.949
Luminal A-like	16 (29.63)	38 (70.37)		1.00		
Luminal B-like	10 (8.40)	109 (91.60)		0.91	0.05-15.98	
RS categories			<0.001			0.002
Low	13 (39.39)	20 (60.61)		1.00		
Intermediate	12 (11.88)	89 (88.12)		6.37	1.98-20.45	
High	1 (2.56)	38 (97.44)		20.83	2.06-210.59	

Association between chemotherapy recommendation and clinicopathological characteristics was evaluated using the χ^2 test. Fisher's exact test was performed when total number of cases was <40 or minimum theoretical frequency was <5. Factors associated with chemotherapy recommendation in the multivariate analyses were identified using logistic regression. T, tumor; ER, estrogen receptor; PR, progesterone receptor; RS, recurrence score; OR, odds ratio; CI, confidence interval.